MARYLAND INVENTORY OF HISTORIC BRIDGES **MHT No.** HO-730
HISTORIC BRIDGE INVENTORY
MARYLAND STATE HIGHWAY ADMINISTRATION/
MARYLAND HISTORICAL TRUST

SHA Bridge No. 13026 **Bridge name** Md 32 Pedestrian Bridge over Middle Patuxent River

LOCATION:
Street/Road name and number [facility carried] MD 32 Pedestrian Bridge

City/town Simpsonville **Vicinity** X

County Howard

This bridge projects over: Road____ **Railway**_____ **Water** X **Land** ____

Ownership: State X **County** _____ **Municipal** _____ **Other** _____

HISTORIC STATUS:
Is the bridge located within a designated historic district? Yes _____ **No** _____
National Register-listed district ____ **National Register-determined-eligible district** __
Locally-designated district _____ **Other** _____

Name of district _____

BRIDGE TYPE:
Timber Bridge _____:
Beam Bridge _____ **Truss -Covered** ___ **Trestle** ____ **Timber-And-Concrete** ___

Stone Arch Bridge _____

Metal Truss Bridge _____

Movable Bridge ____:
Swing _____ **Bascule Single Leaf** __ **Bascule Multiple Leaf** _____
Vertical Lift _____ **Retractile**_____ **Pontoon** _____

Metal Girder_____:
Rolled Girder _____ **Rolled Girder Concrete Encased** _____
Plate Girder _____ **Plate Girder Concrete Encased** _____

Metal Suspension _____

Metal Arch _____

Metal Cantilever _____

Concrete X:
Concrete Arch X **Concrete Slab**_____ **Concrete Beam** ___ **Rigid Frame** _____

Other _____ **Type Name** _____

DESCRIPTION:

Setting: Urban _____ **Small town** ____X____ **Rural** _____

Describe Setting:

Bridge 13026 is a pedestrian bridge over the Middle Patuxent River in Howard County. The pedestrian bridge runs east-west and the Middle Patuxent River flows southeast. The bridge is located in the vicinity of Simpsonville, close to the Middle Patuxent Environmental Area, and is surrounded by woods and scattered residential dwellings.

Describe Superstructure and Substructure:

Bridge 13026 is a single-span, concrete arch bridge. The bridge was constructed in 1916, was widened with metal beams in 1971, and was reconstructed circa 1995 to restore the original appearance of the bridge. The structure is 25.3 meters (83 feet) long and has a clear roadway width of 9.4 meters (31 feet). The out-to-out width is 10 meters (33 feet). The superstructure consists of 1 arch which supports a concrete deck and concrete parapets. The arch spans 24.1 meters (79 feet) and is a filled spandrel concrete arch. The concrete deck has a bituminous wearing surface. The structure has solid parapets and the roadway approach is gated on the east. The substructure consists of 2 concrete abutments. There are 4 flared concrete wingwalls. The bridge not posted, and does not have a sufficiency rating.

According to the 1996 inspection report, this structure was in good to fair condition with some deterioration of the substructure. The asphalt wearing surface is in good condition. The arch has been patched, and it has some cracks and efflorescence. The spandrel walls were repoured in 1995, and have some light cracks. The abutments and wingwalls have been patched. The west abutment has heavy concrete erosion with exposed aggregate while the west abutment has medium erosion with random cracking and stains. The wingwalls have heavy scaling and loose aggregate. Also, the concrete parapets were repoured circa 1995 and have light cracks.

Discuss Major Alterations:

The bridge was widened with metal beams in 1971. Circa 1995, the beams were removed, and the spandrel walls and parapets were repoured.

HISTORY:

WHEN was the bridge built: 1916, 1971, circa 1995
This date is: Actual ____X____ **Estimated** _____
Source of date: Plaque ____ **Design plans** ____ **County bridge files/inspection form** ____
Other (specify): State Highway Administration Inspection Report/Bridge File

WHY was the bridge built?

The bridge was constructed in response to the need for more efficient transportation network and increased load capacity.

WHO was the designer?

State Roads Commission

WHO was the builder?

State Roads Commission

WHY was the bridge altered?

The bridge was altered to ensure its structural integrity, and then to restore the original look of the bridge after it was no longer needed for transportation purposes.

Was this bridge built as part of an organized bridge-building campaign?

Unknown

SURVEYOR/HISTORIAN ANALYSIS:

This bridge may have National Register significance for its association with:
A - Events _____ B- Person _____
C- Engineering/architectural character _____

The bridge does not have National Register significance due to its widening and subsequent reconstruction.

Was the bridge constructed in response to significant events in Maryland or local history?

The advent of modern concrete technology fostered a renaissance of arch bridge construction in the United States. Reinforced concrete allowed the arch bridge to be constructed with much more ease than ever before and maintained the load-bearing capabilities of the form. As the structural advantages of reinforced concrete became apparent, the heavy, filled barrel of the arch was lightened into ribs. Spandrel walls were opened, to give a lighter appearance and to decrease dead load. This enabled the concrete arch to become flatter and multi-centered, with longer spans possible. Designers were no longer limited to the semicircular or segmental arch form of the stone arch bridge. The versatility of reinforced concrete permitted development of a variety of economical bridges for use on roads crossing small streams and rivers.

Maryland's roads and bridge improvement programs mirrored economic cycles. The first road improvement of the State Roads Commission was a 7 year program, starting with the Commission's establishment in 1908 and ending in 1915. Due to World War I, the period from 1916-1920 was one of relative inactivity; only roads of first priority were built. Truck traffic resulting from war related factories and military installations generated new, heavy traffic unanticipated by the builders of the early road system. From 1920-1929, numerous highway improvements occurred in response to the increase in Maryland motor vehicles from 103,000 in 1920 to 320,000 in 1929, with emphasis on the secondary system of feeder roads which moved traffic from the primary roads built before World War I. After World War I, Maryland's bridge system also was appraised as too narrow and structurally inadequate for the increasing traffic , with plans for an expanded bridge program to be handled by the Bridge Division, set up in 1920. In 1920 under Chapter 508 of the Acts of 1920 the State issued a bond of $3,000,000.00 for road construction; the primary purpose of these monies was

to meet the state obligations involving the construction of rural post roads. The secondary purpose of these monies was to fund (with an equal sum from the counties) the building of lateral roads. The number of hard surfaced roads on the state system grew from 2000 in 1920 to 3200 in 1930. By 1930, Maryland's primary system had been inadequate to the huge freight trucks and volume of passenger cars in use, with major improvements occurring in the late 1930's.

As the nation's automotive traffic increased in the early twentieth century, local road networks were consolidated, and state highway departments were formed to supervise the construction and improvement of state roads. With a diverse topographical domain encompassing numerous small and large crossings, Maryland engineers quickly recognized the need for expedient design and construction through the standardization of bridge designs.

The concept and practice of standardization was one of the most important developments in engineering of the twentieth century. In Maryland, as in the rest of the nation, the standardized concrete types became the predominant bridge types built. In the period 1911 to 1920 (the decade in which standardized plans were introduced), beams and slabs constituted 65 percent and arches 35 percent of the extant 29 bridges built in Maryland during this period. In the following decade, 1921-1930, the beam (now the T-beam) and slab increased to 73 percent and the arch had declined to 27 percent of the 129 extant bridges; in the next decade (1931-1940), the beam and slab achieved 82 percent and arches had further declined, constituting only 18 percent of the total of extant bridges built on state-owned roads between 1931 and 1946.

Although beam and slab bridges became the utilitarian choice, it appears that the arch was selected when aesthetic as well as other site conditions were considered. The architectural treatment of extant arch bridges supports this assessment. Many of these bridges were multiple span structures with open spandrels or masonry facing. Another decorative feature of the concrete arch bridge was an open, balustrade-style parapet. Despite the popularity of ornamental arches and the increase in use of beam and slab bridges, examples of simpler, single and multiple span closed concrete arch bridges with solid parapets continued to be constructed throughout the early twentieth century.

When the bridge was built and/or given a major alteration, did it have a significant impact on the growth and development of the area?

There is no evidence that the construction of this bridge had a significant impact on the growth and development of this area.

Is the bridge located in an area which may be eligible for historic designation and would the bridge add to or detract from the historic/visual character of the potential district?

The bridge is located in an area which does not appear to be eligible for historic designation.

Is the bridge a significant example of its type?

A significant example of a concrete arch bridge should possess character-defining elements of its type, and be readily recognizable as an historic structure from the perspective of the traveler. The integrity of distinctive features visible from the roadway approach, including parapet walls or railings, is important in structures which are common examples of their type. In addition, the structure must be in excellent condition. This bridge, which was significantly altered in 1971 and again in 1995, is an undistinguished example of a concrete arch bridge constructed of mostly modern materials.

Does the bridge retain integrity of important elements described in Context Addendum?

This bridge was widened in 1971, resulting the loss of such character-defining elements as the spandrel walls and parapets. The bridge was reconstructed circa 1995, but the new spandrel walls and parapets are modern replacements.

Is the bridge a significant example of the work of a manufacturer, designer, and/or engineer?

This bridge is not a significant example of the work of a manufacturer, designer, and/or engineer.

Should the bridge be given further study before an evaluation of its significance is made?

No further study of this bridge is required to evaluate its significance.

BIBLIOGRAPHY:

County inspection/bridge files _____ **SHA inspection/bridge files** X
Other (list): _____

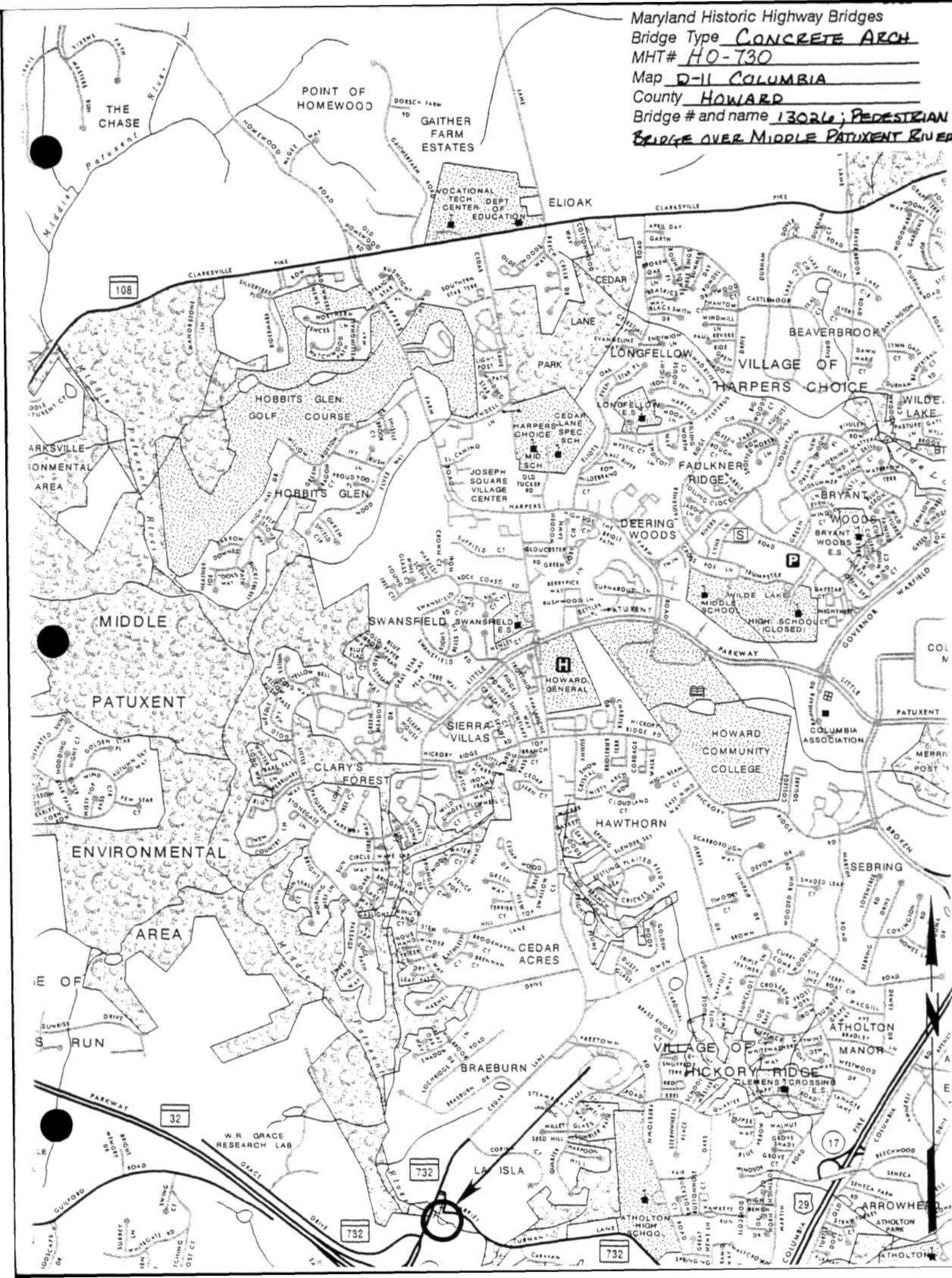
Johnson, Arthur Newhall
1899 The Present Condition of Maryland Highways. In *Report on the Highways of Maryland*. Maryland Geological Survey, The Johns Hopkins University Press, Baltimore.

P.A.C. Spero & Company and Louis Berger & Associates
1995 Historic Highway Bridges in Maryland: 1631-1960: Historic Context Report. Maryland State Highway Administration, Maryland State Department of Transportation, Baltimore, Maryland.

Tyrrell, H. Grattan
1909 *Concrete Bridges and Culverts for Both Railroads and Highways*. The Myron C. Clark Publishing Company, Chicago and New York.

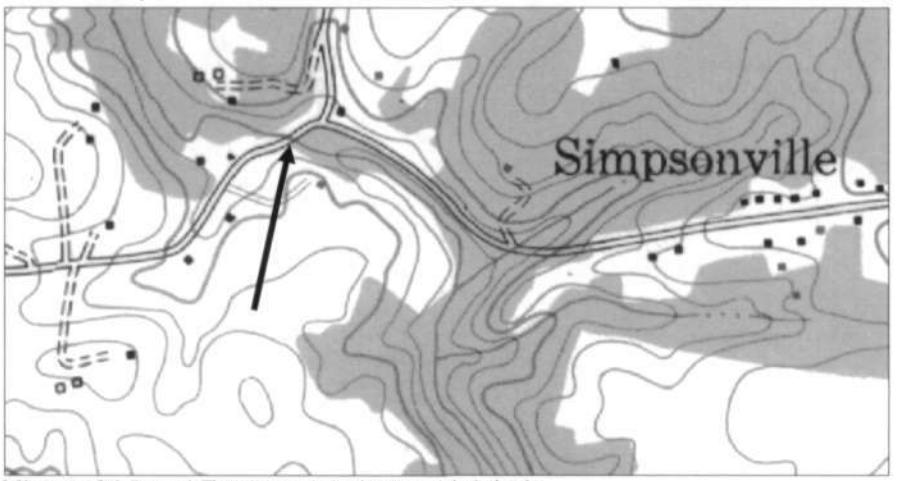
SURVEYOR:

Date bridge recorded December 1997
Name of surveyor Wallace, Montgomery & Associates / P.A.C. Spero & Company
Organization/Address P.A.C. Spero & Co., 40 W. Chesapeake Avenue, Baltimore, MD 21204
Phone number (410) 296-1635 **FAX number** (410) 296-1670

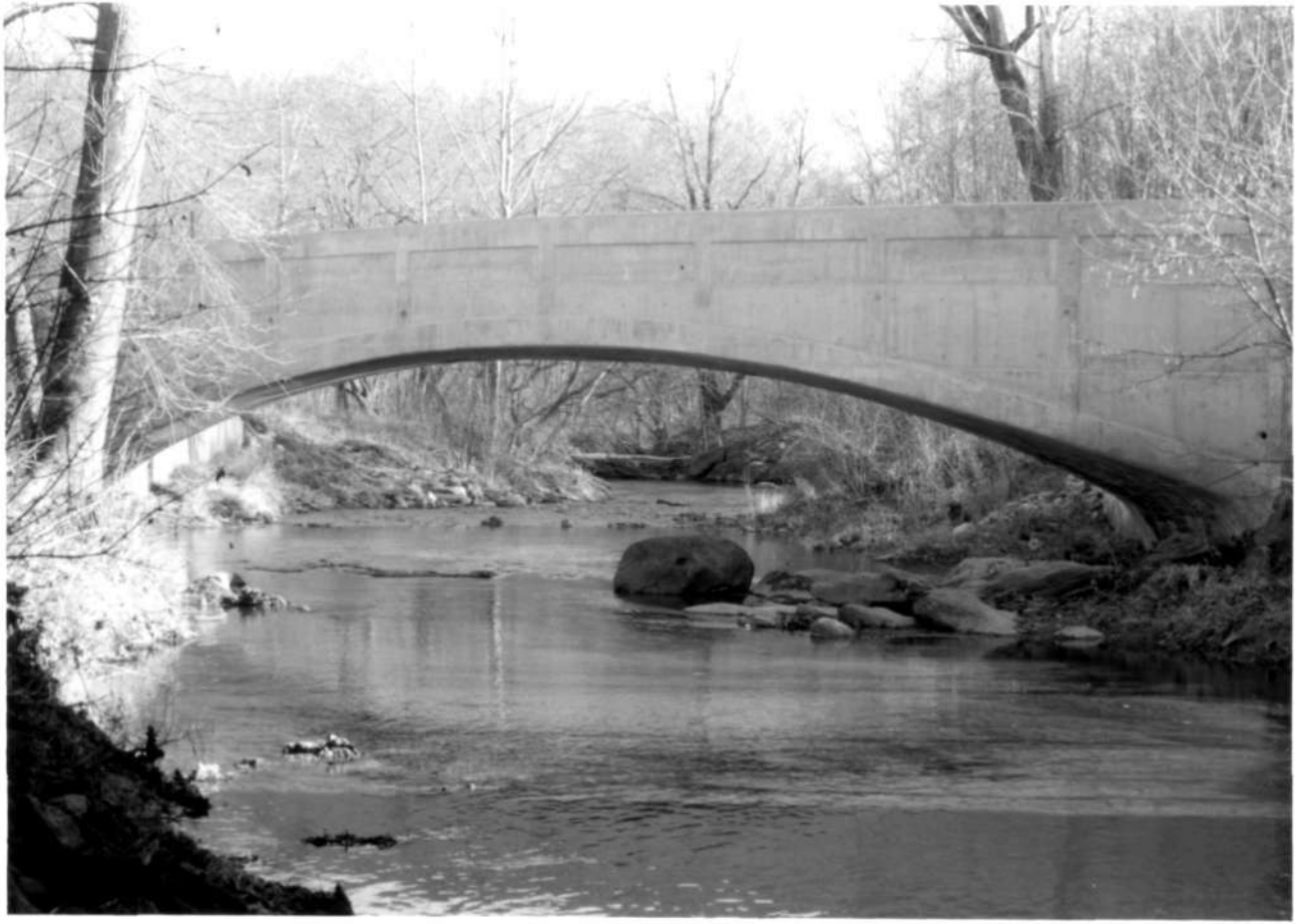

Maryland Historic Highway Bridges
Bridge Type CONCRETE ARCH
MHT# HO-730
Map D-11 COLUMBIA
County HOWARD
Bridge # and name 13026; PEDESTRIAN BRIDGE OVER MIDDLE PATUXENT RIVER
THE CHASE
POINT OF HOMEWOOD
GAITHER FARM ESTATES
VOCATIONAL TECH. CENTER
DEPT OF EDUCATION
ELIOAK
CLARKSVILLE PIKE
108
HOBBITS GLEN GOLF COURSE
HOBBITS GLEN
CEDAR LANE PARK
HARPERS CHOICE MID SCH
CEDAR LANE SPEC SCH
JOSEPH SQUARE VILLAGE CENTER
LONGFELLOW
LONGFELLOW E.S.
VILLAGE OF HARPERS CHOICE
BEAVERBROOK
WILDE LAKE
FAULKNER RIDGE
BRYANT WOODS
BRYANT WOODS E.S.
DEERING WOODS
WILDE LAKE MIDDLE SCHOOL
HIGH SCHOOL (CLOSED)
SWANSFIELD
SWANSFIELD E.S.
HOWARD GENERAL
COLUMBIA ASSOCIATION
HOWARD COMMUNITY COLLEGE
SIERRA VILLAS
CLARY'S FOREST
HAWTHORN
SEBRING
CEDAR ACRES
BRAEBURN
VILLAGE OF HICKORY RIDGE
CLEMENS CROSSING E.S.
ATHOLTON MANOR
ATHOLTON HIGH SCHOOL
ARROWHEAD
ATHOLTON PARK
LA ISLA
W.R. GRACE RESEARCH LAB
MIDDLE PATUXENT ENVIRONMENTAL AREA
PARKWAY
32
732
29
17

HO-730
Bridge #13026. Pedestrian Bridge over Middle Patuxent River
Bing Maps Bird's-eye view

Clarksville quad 1957, Photorevised 1979



Microsoft Virtual Earth aerial photo with labels



1. HO-730
2. MD 32 Pedestrian Bridge over Middle Patuxent River
3. Howard Co., MD
4. Wallace, Montgomery & Assoc.
5. 12/97
6. MD SHPO
7. Elevation looking upstream
8. 1 of 4

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2. MD32 Pedestrian Bridge over Middle Patuxent River
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5. 12/97
6. MD SHPO
7. Elevation looking downstream
8. 2 of 4

1. HO-730
2. MD 32 Pedestrian Bridge over Middle Patuxent River
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4. Wallace, Montgomery & Associates
5. 12/97
6. MD SHPO
7. Looking East
8. 3 of 4

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1. HO-730
2. MD 32 Pedestrian Bridge over Middle Patuxent River
3. Howard Co., MD
4. Wallace, Montgomery & Associates
5. 12/97
6. MD SHPO
7. Looking West
8. 4 of 4

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